

Welding and Soldering Equipment Manufacturing: 2002

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2002 Economic Census

Manufacturing

Industry Series



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U.S. Department of Commerce
Economics and Statistics Administration
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-- Not applicable for this report.

Table 1. Historical Statistics for the Industry: 2002 and Earlier Years

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

| Industry and year ¹ | Com- panies ² | All estab- lish- ments ³ | All employees | | Production workers | | | Value added (\$1,000) | Total cost of materials (\$1,000) | Total value of shipments (\$1,000) | Total capital expendi- tures (\$1,000) |
|--|-----------------------------|--|---------------------|----------------------|---------------------|------------------|--------------------|-----------------------------|--|---|---|
| | | | Number ⁴ | Payroll (\$1,000) | Number ⁴ | Hours (1,000) | Wages (\$1,000) | | | | |
| 333992, Welding and soldering equipment manufacturing | 2002.. | 231 | 16 128 | 794 067 | 9 182 | 17 521 | 389 817 | 2 010 476 | 1 870 971 | 3 799 582 | '123 387 |
| | 2001.. | N | 18 338 | 776 016 | 10 976 | 21 472 | 402 476 | 1 668 566 | 2 146 515 | 3 895 540 | 98 464 |
| | 2000.. | N | 20 087 | 813 344 | 12 228 | 23 320 | 409 728 | 1 929 157 | 2 293 794 | 4 234 895 | 103 533 |
| | 1999.. | N | 18 488 | 758 202 | 11 387 | 21 561 | 363 654 | 1 890 072 | 2 259 392 | 4 192 199 | 69 527 |
| | 1998.. | N | 21 128 | 840 387 | 13 404 | 26 264 | 436 163 | 1 920 736 | 2 296 870 | 4 276 808 | 83 873 |
| | 1997.. | 218 | 22 505 | 918 180 | 14 640 | 29 279 | 485 833 | 2 027 004 | 2 453 362 | 4 444 978 | 122 871 |

¹Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Industry Statistics for Selected States: 2002

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

| Industry and geographic area | E ¹ | All establishments ² | | All employees | | Production workers | | | Value added (\$1,000) | Total cost of materials (\$1,000) | Total value of shipments (\$1,000) | Total capital expenditures (\$1,000) |
|--|----------------|---------------------------------|---------------------------|---------------------|-------------------|---------------------|---------------|-----------------|-----------------------|-----------------------------------|------------------------------------|--------------------------------------|
| | | Total | With 20 employees or more | Number ³ | Payroll (\$1,000) | Number ³ | Hours (1,000) | Wages (\$1,000) | | | | |
| 333992, Welding and soldering equipment manufacturing | | | | | | | | | | | | |
| United States | 1 | 231 | 113 | 16 128 | 794 067 | 9 182 | 17 521 | 389 817 | 2 010 476 | 1 870 971 | 3 799 582 | 123 387 |
| California | 1 | 29 | 9 | 900 | 43 527 | 431 | 766 | 13 739 | 95 757 | 63 529 | 161 271 | 2 814 |
| Connecticut | — | 7 | 4 | 211 | 10 904 | 88 | 185 | 3 414 | 21 219 | 13 282 | 37 035 | 1 069 |
| Florida | 1 | 12 | 5 | 439 | 16 626 | 264 | 452 | 6 492 | 40 296 | 21 234 | 59 141 | 994 |
| Georgia | 1 | 4 | 1 | 175 | 7 710 | 96 | 185 | 3 210 | 18 955 | 23 536 | 42 004 | 530 |
| Illinois | 3 | 13 | 9 | 419 | 15 929 | 246 | 489 | 6 965 | 37 862 | 24 794 | 59 180 | 293 |
| Indiana | 2 | 6 | 2 | 143 | 6 560 | 91 | 179 | 3 147 | 13 492 | 9 454 | 22 689 | 932 |
| Kentucky | 2 | 4 | 4 | 198 | 7 435 | 127 | 231 | 3 868 | 22 719 | 23 032 | 45 613 | 976 |
| Michigan | 1 | 33 | 21 | 3 111 | 183 010 | 1 524 | 3 195 | 77 159 | 412 694 | 441 469 | 794 286 | 10 100 |
| New Hampshire | — | 5 | 4 | 891 | 40 361 | 448 | 949 | 15 024 | 103 224 | 74 347 | 175 689 | 3 260 |
| Ohio | 1 | 23 | 12 | 4 234 | 226 009 | 2 507 | 3 900 | 119 145 | 710 884 | 525 516 | 1 205 032 | 3 086 |
| Pennsylvania | 1 | 12 | 6 | 698 | 32 841 | 437 | 933 | 17 820 | 70 752 | 71 181 | 151 799 | 6 354 |
| Texas | 8 | 12 | 5 | 776 | 31 505 | 521 | 1 118 | 20 423 | 99 705 | 66 381 | 166 981 | 2 589 |
| Wisconsin | — | 13 | 5 | 1 490 | 74 546 | 919 | 1 942 | 53 671 | 127 706 | 266 599 | 393 717 | 3 976 |

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Item | Value |
|--|----------------------|
| 333992, Welding and soldering equipment manufacturing | |
| Companies ¹ | number.. 203 |
| All establishments ² | number.. 231 |
| Establishments with 1 to 19 employees | number.. 118 |
| Establishments with 20 to 99 employees | number.. 80 |
| Establishments with 100 employees or more | number.. 33 |
| All employees ³ | number.. 16 128 |
| Total compensation | \$1,000.. 986 436 |
| Annual payroll | \$1,000.. 794 067 |
| Total fringe benefits | \$1,000.. 192 369 |
| Production workers, average for year | number.. 9 182 |
| Production workers on March 12 | number.. 9 309 |
| Production workers on May 12 | number.. 9 216 |
| Production workers on August 12 | number.. 9 146 |
| Production workers on November 12 | number.. 9 046 |
| Production worker hours | 1,000.. 17 521 |
| Production worker wages | \$1,000.. 389 817 |
| Total cost of materials | \$1,000.. 1 870 971 |
| Materials, parts, containers, packaging, etc., used | \$1,000.. 1 589 864 |
| Resales | \$1,000.. 169 278 |
| Purchased fuels | \$1,000.. 10 129 |
| Purchased electricity | \$1,000.. 29 653 |
| Contract work | \$1,000.. 72 047 |
| Quantity of electricity purchased for heat and power | 1,000 kWh.. 530 105 |
| Quantity of electricity generated less sold for heat and power | 1,000 kWh.. - |
| Total value of shipments | \$1,000.. 3 799 582 |
| Primary products value of shipments | \$1,000.. 3 420 330 |
| Secondary products value of shipments | \$1,000.. 141 742 |
| Total miscellaneous receipts | \$1,000.. 237 510 |
| Value of resales | \$1,000.. 217 790 |
| Contract receipts | \$1,000.. 5 803 |
| Other miscellaneous receipts | \$1,000.. 13 917 |
| Primary products specialization ratio | percent.. 96 |
| Value of primary products shipments made in all industries | \$1,000.. 3 524 593 |
| Value of primary products shipments made in this industry | \$1,000.. 3 420 330 |
| Value of primary products shipments made in other industries | \$1,000.. 104 263 |
| Coverage ratio | percent.. 97 |
| Value added | \$1,000.. 2 010 476 |
| Total inventories, beginning of year | \$1,000.. 580 007 |
| Finished goods inventories | \$1,000.. 232 017 |
| Work-in-process inventories | \$1,000.. 184 154 |
| Materials and supplies inventories | \$1,000.. 163 836 |
| Total inventories, end of year | \$1,000.. 631 955 |
| Finished goods inventories | \$1,000.. 208 563 |
| Work-in-process inventories | \$1,000.. 289 473 |
| Materials and supplies inventories | \$1,000.. 133 919 |
| Gross value of depreciable assets (acquisition costs) at beginning of year | \$1,000.. 1 356 717 |
| Total capital expenditures (new and used) | \$1,000.. '123 387 |
| Buildings and other structures (new and used) | \$1,000.. '16 205 |
| Machinery and equipment (new and used) | \$1,000.. '107 182 |
| Automobiles, trucks, etc., for highway use | \$1,000.. '8 113 |
| Computers and peripheral data processing equipment | \$1,000.. '6 138 |
| All other expenditures for machinery and equipment | \$1,000.. '92 931 |
| Total retirements | \$1,000.. '86 301 |
| Gross value of depreciable assets at end of year | \$1,000.. '1 393 803 |
| Depreciation charges during year | \$1,000.. '90 650 |
| Total rental payments | \$1,000.. 49 906 |
| Buildings and other structures | \$1,000.. 38 223 |
| Machinery and equipment | \$1,000.. 11 683 |
| Total other expenses ⁴ | \$1,000.. 252 528 |
| Response coverage ratio ⁵ | percent.. 86 |
| Repair and maintenance services of buildings and/or machinery ⁴ | \$1,000.. 19 047 |
| Communications services ⁴ | \$1,000.. 9 735 |
| Legal services ⁴ | \$1,000.. 15 321 |
| Accounting, auditing, and bookkeeping services ⁴ | \$1,000.. 4 071 |
| Advertising and promotional services ⁴ | \$1,000.. 16 226 |
| Expensed computer hardware and supplies and purchased computer services ⁴ | \$1,000.. 7 489 |
| Refuse removal (including hazardous waste) services ⁴ | \$1,000.. 3 596 |
| Management consulting and administrative services ⁴ | \$1,000.. 6 394 |
| Taxes and license fees ⁴ | \$1,000.. 8 456 |
| All other expenses ⁴ | \$1,000.. 162 194 |

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Based on 2002 Annual Survey of Manufactures (ASM) sample data.

⁵A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

| Employment size class | E ¹ | All establishments ² | All employees | | Production workers | | | Value added (\$1,000) | Total cost of materials (\$1,000) | Total value of shipments (\$1,000) | Total capital expenditures (\$1,000) |
|---|----------------|---------------------------------|---------------------|-------------------|---------------------|---------------|-----------------|-----------------------|-----------------------------------|------------------------------------|--------------------------------------|
| | | | Number ³ | Payroll (\$1,000) | Number ³ | Hours (1,000) | Wages (\$1,000) | | | | |
| 333992, Welding and soldering equipment manufacturing | | | | | | | | | | | |
| All establishments | 1 | 231 | 16 128 | 794 067 | 9 182 | 17 521 | 389 817 | 2 010 476 | 1 870 971 | 3 799 582 | '123 387 |
| Establishments with— | | | | | | | | | | | |
| 1 to 4 employees | 8 | 55 | 116 | 4 337 | 72 | 120 | 2 062 | 8 119 | 9 389 | 17 652 | '269 |
| 5 to 9 employees | 7 | 25 | 168 | 6 476 | 102 | 187 | 3 058 | 14 432 | 13 277 | 27 778 | '616 |
| 10 to 19 employees | 5 | 38 | 533 | 22 054 | 322 | 640 | 10 091 | 57 638 | 56 282 | 114 784 | '2 871 |
| 20 to 49 employees | 4 | 51 | 1 614 | 64 401 | 940 | 1 874 | 29 191 | 142 215 | 137 719 | 284 150 | '8 819 |
| 50 to 99 employees | 1 | 29 | 2 057 | 86 257 | 1 196 | 2 473 | 39 113 | 191 004 | 173 660 | 367 931 | '9 221 |
| 100 to 249 employees | 1 | 22 | 3 551 | 161 315 | 2 121 | 4 071 | 81 640 | 394 402 | 291 143 | 682 480 | '10 452 |
| 250 to 499 employees | 2 | 7 | h | D | D | D | D | D | D | D | D |
| 500 to 999 employees | — | 1 | f | D | D | D | D | D | D | D | D |
| 1,000 to 2,499 employees | — | 3 | 4 821 | 289 213 | 2 366 | 3 810 | 134 204 | 804 331 | 722 597 | 1 465 048 | 27 724 |
| 2,500 employees or more | — | — | — | — | — | — | — | — | — | — | — |
| Administrative records ⁴ | 9 | 82 | 574 | 22 716 | 347 | 713 | 10 616 | 47 666 | 59 823 | 106 219 | '1 702 |

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Industry Statistics by Primary Product Class Specialization: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

| Industry or product class code | Industry or primary product class | All establishments ¹ | All employees | | Production workers | | | Value added (\$1,000) | Total cost of materials (\$1,000) | Total value of shipments (\$1,000) | Total capital expenditures (\$1,000) |
|--------------------------------|--|---------------------------------|---------------------|-------------------|---------------------|---------------|-----------------|-----------------------|-----------------------------------|------------------------------------|--------------------------------------|
| | | | Number ² | Payroll (\$1,000) | Number ² | Hours (1,000) | Wages (\$1,000) | | | | |
| 333992 | Welding and soldering equipment manufacturing | 231 | 16 128 | 794 067 | 9 182 | 17 521 | 389 817 | 2 010 476 | 1 870 971 | 3 799 582 | '123 387 |
| 3339921 | Arc welding machines, components, and accessories (except electrodes), except stud welding equipment | 65 | 4 414 | 214 293 | 2 744 | 5 546 | 130 281 | 451 104 | 671 438 | 1 086 384 | '14 130 |
| 3339923 | Arc welding electrodes, metal | 22 | 3 684 | 188 336 | 2 130 | 3 116 | 93 893 | 632 854 | 324 239 | 963 170 | '30 766 |
| 3339927 | Resistance welders, components, accessories, and electrodes | 40 | 3 450 | 198 900 | 1 582 | 3 231 | 73 219 | 418 846 | 487 992 | 849 468 | '14 967 |
| 3339929 | Gas welding and cutting equipment, parts, attachments, and accessories | 18 | 1 397 | 52 713 | 951 | 2 062 | 30 493 | 178 158 | 141 320 | 319 374 | '5 394 |
| 333992A | Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment) | 42 | 2 974 | 131 219 | 1 650 | 3 350 | 57 797 | 317 523 | 233 951 | 557 176 | '57 771 |

¹Includes establishments with payroll at any time during the year.

²Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6a. **Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Product code | Product | Number of companies with shipments of \$100,000 or more | Quantity of production for all purposes | Product shipments | |
|--------------|--|---|---|-------------------|------------------------|
| | | | | Quantity | Value (\$1,000) |
| 333992 | Welding and soldering equipment manufacturing | 2002.. N 1997.. N | X X | X X | 3 524 593 4 127 329 |
| 3339921 | Arc welding machines, components, and accessories (except electrodes), except stud welding equipment | 2002.. N 1997.. N | X X | X X | 1 261 711 1 418 821 |
| 33399211 | Arc welding apparatus and related equipment | 2002.. N 1997.. N | X X | X X | 1 261 711 1 273 655 |
| 3339921101 | Direct current arc welding generators, except stud welding equipment | thousands.. 2002.. 6 1997.. 3 | X X | S S | 107 202 153 674 |
| 3339921106 | Rectifier-type direct current arc welders (except stud welders), fully or partly automatic | thousands.. 2002.. 8 1997.. 7 | X X | S 88.0 | 323 867 265 603 |
| 3339921111 | Rectifier-type direct current arc welders (except stud welders), not fully or partly automatic | thousands.. 2002.. 3 1997.. 4 | X X | D D | D D |
| 3339921126 | Automatic and semiautomatic wire drive apparatus and related accessories for arc welding machines (except electrodes and stud welding equipment) | 2002.. 13 1997.. 6 | X X | X X | 158 645 118 410 |
| 3339921131 | Special-purpose automatic arc welding apparatus (except electrodes and stud welding equipment) | 2002.. 24 1997.. 10 | X X | X X | 84 903 45 342 |
| 3339921136 | Automatic and semiautomatic welding torches, guns and cables, and related accessories for arc welding machines (except electrodes and stud welding equipment) | 2002.. 19 1997.. 11 | X X | X X | 104 363 124 030 |
| 3339921141 | Circuit welding accessories (including electrode holders, ground clamps, cable connectors, cables sold separately, etc.) (except electrodes and stud welding equipment) | 2002.. 8 1997.. 5 | X X | X X | 47 430 D |
| 3339921146 | Positioning and manipulating arc welding equipment (including turn rolls, head and tail stock, weld head manipulators, seamers, etc.) (except electrodes and stud welding equipment) | 2002.. 14 1997.. 10 | X X | X X | 98 941 111 576 |
| 3339921151 | Alternating current transformer arc welding machines (except stud welding equipment) | thousands.. 2002.. 3 1997.. 8 | X X | D S | D 83 307 |
| 3339921156 | Complete direct current arc welding units (except stud welding equipment) | thousands.. 2002.. 12 1997.. 6 | X X | S D | 226 225 D |
| 3339921161 | All other components and accessories for arc welding machinery (except welding rods, electrodes, and stud welding equipment) | 2002.. 19 1997.. 17 | X X | X X | 72 279 109 876 |
| 3339921Y | Arc welding machines, components, and accessories (except electrodes), except stud welding equipment, nsk | 2002.. N 1997.. N | X X | X X | — 145 166 |
| 3339921YVV | Arc welding machines, components, and accessories (except electrodes), except stud welding equipment, nsk | 2002.. N 1997.. N | X X | X X | — 145 166 |
| 3339923 | Arc welding electrodes, metal | 2002.. N 1997.. N | X X | X X | 682 211 1 204 369 |
| 33399231 | Electrodes for welding | 2002.. N 1997.. N | X X | X X | 673 317 1 188 515 |
| 3339923101 | Mild steel arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing | mil lb.. 2002.. 8 1997.. 6 | X X | D D | D D |
| 3339923106 | Low alloy steel arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing | mil lb.. 2002.. 6 1997.. 5 | X X | D S | D 90 538 |
| 3339923111 | Stainless steel (chromium, 4 percent or more) low alloy steel arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing | mil lb.. 2002.. 4 1997.. 5 | X X | D 10.3 | D 48 474 |
| 3339923116 | Nonferrous metal arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing | mil lb.. 2002.. 4 1997.. 6 | X X | S S | 11 538 29 268 |
| 3339923121 | Hard facing metal arc welding stick electrodes (including solid, cored, covered, and bare electrodes) | mil lb.. 2002.. 10 1997.. 7 | X X | S P4.9 | 16 422 29 405 |
| 3339923126 | Mild steel coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing | mil lb.. 2002.. 6 1997.. 4 | X X | D S | D 101 123 |
| 3339923131 | Low alloy steel coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing | mil lb.. 2002.. 5 1997.. 2 | X X | D D | D D |
| 3339923136 | Stainless steel (chromium, 4 percent or more) coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing | mil lb.. 2002.. 9 1997.. 5 | X X | S S | 20 443 68 438 |
| 3339923141 | Nonferrous metal coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing | mil lb.. 2002.. 7 1997.. 4 | X X | S 8.2 | 34 109 31 164 |
| 3339923146 | Hard facing coiled and spooled continuous metal wire electrodes for automatic arc and inert gas welding | mil lb.. 2002.. 5 1997.. 3 | X X | 19.3 P9.6 | 31 992 37 478 |
| 3339923151 | Coiled and spooled continuous cored metal wire electrodes for automatic arc and inert gas welding, except hard facing | mil lb.. 2002.. 10 1997.. 7 | X X | S D | 47 600 D |
| 3339923Y | Arc welding electrodes, metal, nsk | 2002.. N 1997.. N | X X | X X | 8 894 15 854 |
| 3339923YVV | Arc welding electrodes, metal, nsk | 2002.. N 1997.. N | X X | X X | 8 894 15 854 |

See footnotes at end of table.

Table 6a. **Products Statistics: 2002 and 1997—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Product code | Product | Number of companies with shipments of \$100,000 or more | Quantity of production for all purposes | Product shipments | |
|--------------|--|---|---|-------------------|-----------------|
| | | | | Quantity | Value (\$1,000) |
| 333992 | Welding and soldering equipment manufacturing—Con. | | | | |
| 3339927 | Resistance welders, components, accessories, and electrodes | 2002.. N | X | X | 565 879 |
| | 1997.. N | | X | X | 428 290 |
| 33399271 | Resistance welders, components, accessories, and electrodes | 2002.. N | X | X | 565 173 |
| | 1997.. N | | X | X | 399 467 |
| 3339927101 | Spot and projection resistance welders, single electrode | 2002.. 12 | X | S | 107 147 |
| | 1997.. 19 | | X | S | 85 237 |
| 3339927106 | Spot and projection resistance welders, multielectrode | 2002.. 16 | X | S | 65 689 |
| | 1997.. 20 | | X | S | 165 050 |
| 3339927111 | Seam resistance welders | 2002.. 5 | X | D | D |
| | 1997.. 6 | | X | S | 12 357 |
| 3339927116 | Other resistance welders, including flash, upset, and butt welders | 2002.. 8 | X | X | 13 174 |
| | 1997.. 13 | | X | X | 30 329 |
| 3339927121 | Resistance welder transformers (sold separately) | 2002.. 6 | X | D | D |
| | 1997.. 9 | | X | S | 13 248 |
| 3339927126 | Resistance welder electrodes | 2002.. 13 | X | S | 103 821 |
| | 1997.. 10 | | X | S | 18 081 |
| 3339927131 | Resistance welder components and accessories, including electrode holders, etc. | 2002.. 22 | X | X | 68 099 |
| | 1997.. 19 | | X | X | 75 165 |
| 3339927Y | Resistance welders, components, accessories, and electrodes, nsk | 2002.. N | X | X | 706 |
| | 1997.. N | | X | X | 28 823 |
| 3339927YVV | Resistance welders, components, accessories, and electrodes, nsk | 2002.. N | X | X | 706 |
| | 1997.. N | | X | X | 28 823 |
| 3339929 | Gas welding and cutting equipment, parts, attachments, and accessories | 2002.. N | X | X | 311 647 |
| | 1997.. N | | X | X | 330 193 |
| 33399291 | Gas welding and cutting equipment, parts, attachments, and accessories | 2002.. N | X | X | 311 483 |
| | 1997.. N | | X | X | 315 531 |
| 3339929101 | Gas welding and cutting torches (including gas air torches) | 2002.. 11 | X | S | 84 053 |
| | 1997.. 13 | | X | S | 41 479 |
| 3339929106 | Gas cutting machines and carriages, stationary and portable | 2002.. 5 | X | S | 13 711 |
| | 1997.. 7 | | X | S | 43 384 |
| 3339929111 | Other gas welding and cutting equipment, excluding pressure containers | 2002.. 5 | X | X | D |
| | 1997.. 11 | | X | X | 71 155 |
| 3339929116 | Tips for gas welding and cutting equipment (sold separately) | 2002.. 13 | X | X | D |
| | 1997.. 12 | | X | X | 48 943 |
| 3339929121 | Pressure regulators for gas welding and cutting equipment (sold separately) | 2002.. 8 | X | S | 43 923 |
| | 1997.. 9 | | X | S | 48 328 |
| 3339929126 | All other spare parts, accessories, attachments, adaptors, etc., for gas welding and cutting equipment (sold separately) | 2002.. 13 | X | X | 75 339 |
| | 1997.. 15 | | X | X | 62 242 |
| 3339929Y | Gas welding and cutting equipment, parts, attachments, and accessories, nsk | 2002.. N | X | X | 164 |
| | 1997.. N | | X | X | 14 662 |
| 3339929YVV | Gas welding and cutting equipment, parts, attachments, and accessories, nsk | 2002.. N | X | X | 164 |
| | 1997.. N | | X | X | 14 662 |
| 333992A | Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment) | 2002.. N | X | X | 601 846 |
| | 1997.. N | | X | X | 512 679 |
| 333992A1 | Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment) | 2002.. N | X | X | 594 665 |
| | 1997.. N | | X | X | 466 876 |
| 333992A101 | Stud welding equipment (except arc, resistance, and gas welding equipment) | 2002.. 8 | X | S | 41 238 |
| | 1997.. 6 | | X | S | 54 053 |
| 333992A116 | Industrial welding laser systems and equipment | 2002.. 8 | X | S | 33 473 |
| | 1997.. 10 | | X | S | D |
| 333992A121 | Plasma welding and cutting equipment, fully or partly automatic | 2002.. 12 | X | S | 190 550 |
| | 1997.. 12 | | X | S | 157 585 |
| 333992A126 | Plasma welding and cutting equipment, except fully or partly automatic | 2002.. 8 | X | S | 153 942 |
| | 1997.. 4 | | X | 837.0 | 81 869 |
| 333992A132 | All other miscellaneous welding equipment (including friction) | 2002.. 18 | X | S | 89 395 |
| | 1997.. N | | X | N | N |
| 333992A141 | Soldering equipment (except hand and ultrasonic) | 2002.. 10 | X | S | 10 525 |
| | 1997.. 4 | | X | D | D |
| 333992A146 | Components and accessories for all other welding equipment (except arc, resistance, and gas welding equipment) | 2002.. 15 | X | X | 75 542 |
| | 1997.. 20 | | X | X | 65 941 |
| 333992AY | Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment), nsk | 2002.. N | X | X | 7 181 |
| | 1997.. N | | X | X | 45 803 |
| 333992AYVV | Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment), nsk | 2002.. N | X | X | 7 181 |
| | 1997.. N | | X | X | 45 803 |
| 333992W | Welding and soldering equipment manufacturing, nsk, total | 2002.. N | X | X | 101 299 |
| | 1997.. N | | X | X | 232 977 |
| 333992WY | Welding and soldering equipment manufacturing, nsk, total | 2002.. N | X | X | 101 299 |
| | 1997.. N | | X | X | 232 977 |
| 333992WYWW | Welding and soldering equipment manufacturing, nsk, for nonadministrative-record establishments | 2002.. N | X | X | 91 824 |
| | 1997.. N | | X | X | 169 519 |
| 333992WYWY | Welding and soldering equipment manufacturing, nsk, administrative-record establishments | 2002.. N | X | X | 9 475 |

See footnotes at end of table.

Table 6a. Products Statistics: 2002 and 1997—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Product code | Product | Number of companies with shipments of \$100,000 or more | Quantity of production for all purposes | Product shipments | |
|--------------|---|---|---|-------------------|-----------------|
| | | | | Quantity | Value (\$1,000) |
| 333992 | Welding and soldering equipment manufacturing—Con. | | | | |
| 333992W | Welding and soldering equipment manufacturing, nsk, total—Con. | | | | |
| 333992WY | Welding and soldering equipment manufacturing, nsk, total—Con. | | | | |
| 333992WYWY | Welding and soldering equipment manufacturing, nsk, administrative-record establishments—Con. | | | | |
| | 1997.. | N | X | X | 63 458 |

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p—10 to 19 percent estimated; q—20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. Product Class Shipments for Selected States: 2002 and 1997

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

| NAICS product class code | Product class and geographic area | Value of product shipments (\$1,000) |
|--------------------------|--|--------------------------------------|
| 3339921 | Arc welding machines, components, and accessories (except electrodes), except stud welding equipment | |
| | United States 2002 .. | 1 261 711 |
| | 1997 .. | 1 418 821 |
| | California 2002 .. | 62 468 |
| | 1997 .. | 78 372 |
| | Connecticut 2002 .. | 15 475 |
| | 1997 .. | N |
| | Florida 2002 .. | 31 179 |
| | 1997 .. | N |
| | Michigan 2002 .. | 91 976 |
| | 1997 .. | N |
| | Pennsylvania 2002 .. | 20 351 |
| | 1997 .. | N |
| | Texas 2002 .. | 25 772 |
| | 1997 .. | N |
| 3339923 | Arc welding electrodes, metal | |
| | United States 2002 .. | 682 211 |
| | 1997 .. | 1 204 369 |
| | California 2002 .. | 6 701 |
| | 1997 .. | N |
| | Michigan 2002 .. | 41 263 |
| | 1997 .. | N |
| | Ohio 2002 .. | 469 149 |
| | 1997 .. | N |
| 3339927 | Resistance welders, components, accessories, and electrodes | |
| | United States 2002 .. | 565 879 |
| | 1997 .. | 428 290 |
| | California 2002 .. | 26 723 |
| | 1997 .. | 24 014 |
| | Illinois 2002 .. | 6 184 |
| | 1997 .. | 13 757 |
| | Michigan 2002 .. | 366 501 |
| | 1997 .. | 310 776 |
| | Ohio 2002 .. | 90 278 |
| | 1997 .. | 34 335 |
| | Wisconsin 2002 .. | 7 882 |
| | 1997 .. | 12 637 |
| 3339929 | Gas welding and cutting equipment, parts, attachments, and accessories | |
| | United States 2002 .. | 311 647 |
| | 1997 .. | 330 193 |
| | California 2002 .. | 8 018 |
| | 1997 .. | 6 292 |
| | Michigan 2002 .. | 7 299 |
| | 1997 .. | N |
| | Pennsylvania 2002 .. | 11 093 |
| | 1997 .. | 15 945 |
| 333992A | Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment) | |
| | United States 2002 .. | 601 846 |
| | 1997 .. | 512 679 |
| | California 2002 .. | 42 590 |
| | 1997 .. | 43 405 |
| | Connecticut 2002 .. | 12 388 |
| | 1997 .. | N |
| | Illinois 2002 .. | 8 716 |
| | 1997 .. | N |
| | Indiana 2002 .. | 12 106 |
| | 1997 .. | N |
| | Michigan 2002 .. | 175 167 |
| | 1997 .. | 33 338 |
| | Ohio 2002 .. | 34 042 |
| | 1997 .. | 86 374 |

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 7. Materials Consumed by Kind: 2002 and 1997

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Material code | Material consumed | Quantity | Delivered cost (\$1,000) |
|---------------|---|----------|--------------------------|
| 333992 | Welding and soldering equipment manufacturing | | |
| 00900001 | Total materials2002.. | X | 1 589 864 |
| |1997.. | X | 2 136 077 |
| 33272203 | Metal bolts, nuts, screws, washers, rivets, and other screw machine products2002.. | X | 21 148 |
| |1997.. | X | 55 584 |
| 33200095 | Other fabricated metal products (excluding castings and forgings)2002.. | X | 23 108 |
| |1997.. | X | 108 491 |
| 33210000 | Forgings2002.. | X | 7 371 |
| |1997.. | X | N |
| 33151001 | Iron and steel castings (rough and semifinished)2002.. | X | D |
| |1997.. | X | 80 460 |
| 33152500 | Copper and copper-base alloy castings (rough and semifinished)2002.. | X | 4 689 |
| |1997.. | X | 38 589 |
| 33152014 | Other nonferrous metal castings, rough and semifinished (excluding copper and copper-base alloy)2002.. | X | 10 555 |
| |1997.. | X | N |
| 33120007 | Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products)2002.. | X | 48 136 |
| |1997.. | X | 49 329 |
| 33120016 | Steel sheet and strip (including tinplate)2002.. | X | 73 453 |
| |1997.. | X | N |
| 33120025 | Steel wire and wire products2002.. | X | 62 758 |
| |1997.. | X | 257 940 |
| 33120015 | All other steel shapes and forms (excluding castings, forgings, fabricated metal products, bars, bar shapes, plate, sheet, strip, wire and wire products)2002.. | X | D |
| |1997.. | X | 102 657 |
| 33142111 | Copper and copper-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products)2002.. | X | 60 646 |
| |1997.. | X | 118 568 |
| 33100038 | Aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products)2002.. | X | 41 847 |
| |1997.. | X | N |
| 33100082 | Other nonferrous metal shapes and forms (excluding aluminum and aluminum-base alloy and copper and copper-base alloy castings, forgings, and fabricated metal products)2002.. | X | 12 040 |
| |1997.. | X | N |
| 331000A3 | Insulated copper wire and cable (excluding magnet wire)2002.. | X | 7 548 |
| |1997.. | X | 29 839 |
| 33531209 | Fractional horsepower electric timing motors, synchronous and subsynchronous (less than 1 hp)2002.. | X | 9 550 |
| |1997.. | X | 18 765 |
| 33531223 | Fractional horsepower electric motors (less than 1 hp), excluding timing motors2002.. | X | 6 131 |
| |1997.. | X | 5 307 |
| 33531221 | Integral horsepower electric motors and generators (1 hp or more)2002.. | X | D |
| |1997.. | X | 84 826 |
| 001900B1 | Electrical transmission, distribution, and control equipment2002.. | X | 57 057 |
| |1997.. | X | 118 926 |
| 33500007 | Electrical industrial capacitors, resistors, rheostats, and coil windings2002.. | X | 42 250 |
| |1997.. | X | 81 929 |
| 33451300 | Pressure gauges2002.. | X | 2 911 |
| |1997.. | X | 25 684 |
| 33299105 | Ball bearings (mounted or unmounted)2002.. | X | 2 000 |
| |1997.. | X | 8 486 |
| 33299103 | Roller bearings (mounted or unmounted)2002.. | X | 1 089 |
| |1997.. | X | 3 110 |
| 32221001 | Paperboard containers, boxes, and corrugated paperboard2002.. | X | 36 378 |
| |1997.. | X | 58 889 |
| 33399903 | Industrial robots purchased for fabrication with welding equipment2002.. | X | 47 645 |
| |1997.. | X | 35 403 |
| 00970099 | All other materials and components, parts, containers, and supplies2002.. | X | 882 716 |
| |1997.. | X | 600 815 |
| 00971000 | Materials, ingredients, containers, and supplies, nsk2002.. | X | 20 545 |
| |1997.. | X | 252 480 |

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.